

Work Order ID 83127

April-13-12 8:30:17 AM

\*83127\*

Page 1

Item ID: D4617-3

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Step

Start Date: 13/04/2012 Start Qty: 6.00

\*6\*

Cust Item ID:

Required Date: 20/04/2012 Req'd Qty: 6.00

\*6\*

Customer:

Reference:

Approvals:

Process Plan: MLJDate: 12/04/13

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D4617

A

100

0.00

\*100\*

Large Fab

Memo

0.00

Large Fab

Cut tube as per dwg, using the drill notcher and deburr.

12-4-13 21

110

QC6- Inspect dimensions to drawing

0.00

\*110\*

QC

Memo

0.00

Quality Control

Sub 11966

120

Identify as per dwg &amp; Stock Location: \_\_\_\_\_

0.00

\*120\*

Packaging

Memo

0.00

Packaging

D4617-04B 8320WFE12-03-03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Work Order ID 83127

\*83127\*

Page 2

April-13-12 8:30:17 AM

Item ID: D4617-3

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Step

Start Date: 13/04/2012 Start Qty: 6.00

\*6\*

Cust Item ID:

Required Date: 20/04/2012 Req'd Qty: 6.00

\*6\*

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC21- Final Inspection - Work Order Release	0.00							
*130*									
QC	Memo	0.00							
Quality Control									

12/5/3

MF  
12-04-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 18 2012 8:30:21 AM

Page 1

Work Order ID: 83127

\*83127\*

Parent Item: D4617-3

\*D4617-3\*

Parent Item Name: Step

Start Date: 13/04/2012

Required Date: 20/04/2012

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A 12.04.12 NEW ISSUE DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M4130NT0.750W.035		Purchased	No			100	f	96.0000	0.6666	4.210105			

**\*M4130NT0 750W 035\***

4130 RD TUBE .750 X .035W

\*\*

12-4-19

Location

Loc Qty

Loc Code

MAT032

96

121250

96

4.2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

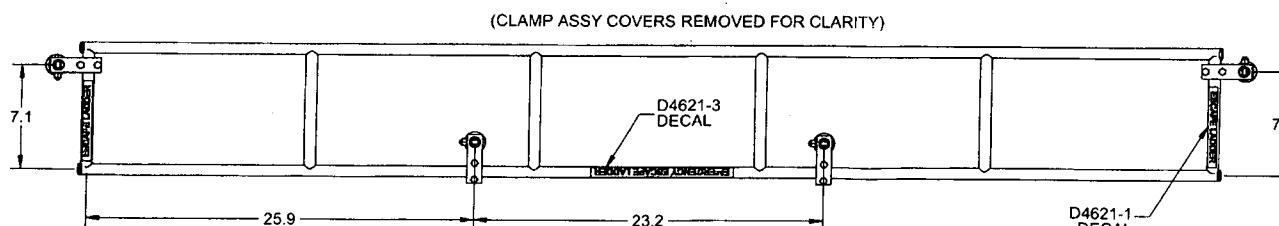
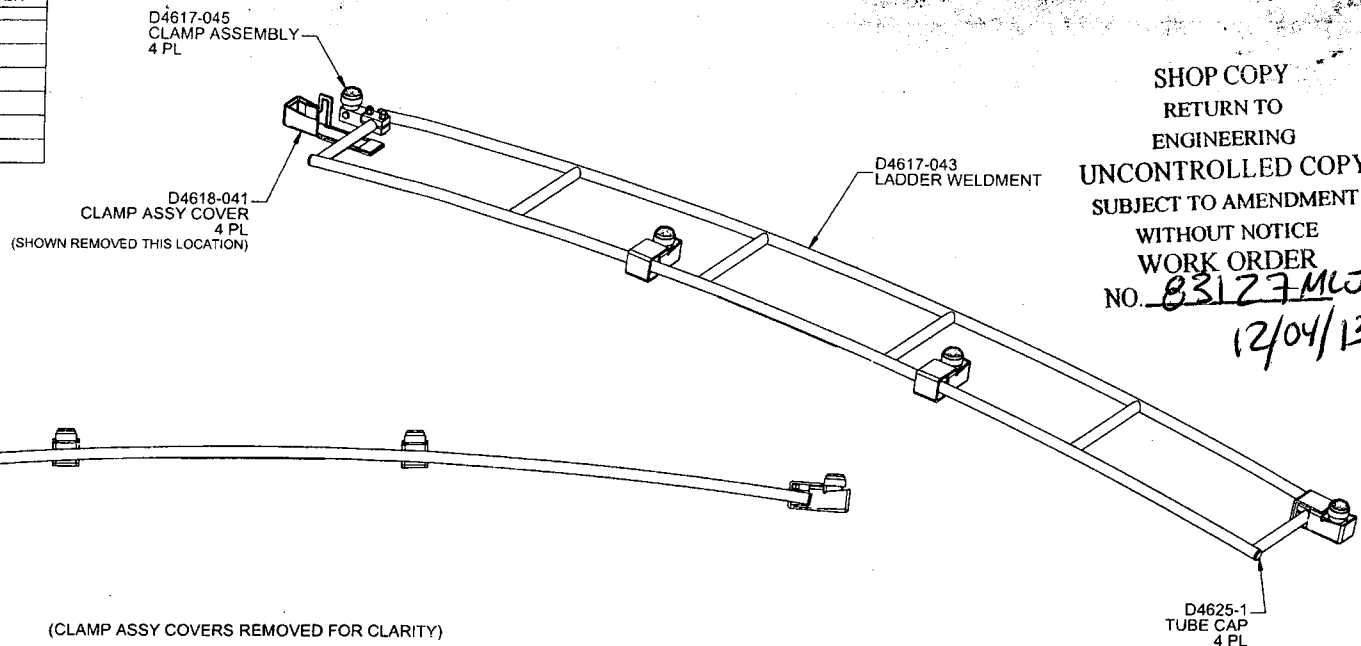
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

ITEM	QTY	P/N	DESCRIPTION
1	1	D4617-041	EMERGENCY ESCAPE LADDER
2	1	D4617-043	LADDER WELDMENT
3	4	D4618-041	CLAMP ASSY COVER
4	2	D4621-1	DECAL
5	1	D4621-3	DECAL
6	4	D4625-1	TUBE CAP



**D4617-041 EMERGENCY ESCAPE LADDER**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4617-041" AND BATCH NUMBER PER QSI044 6.6
- 7) WEIGHT: 6.46 lbs

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. **83127MLJ**  
**12/04/13**

RELEASED  
2012-04-10

A	NEW ISSUE	RP	12.04.02
REV.	DESCRIPTION	BY	DATE
DESIGN	RP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	AD	DRAWING NO.	REV. A
MFG. APPR.	AD	<b>D4617</b>	SHEET 1 OF 5
APPROVED	AD	TITLE	SCALE
DE APPR.	AD	<b>EMERGENCY ESCAPE LADDER</b>	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

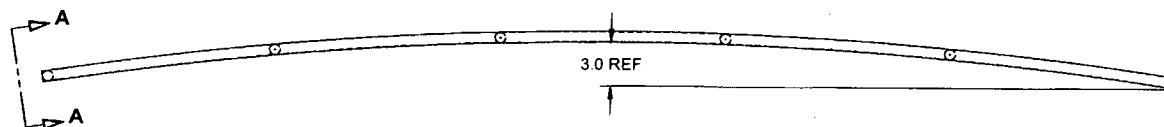
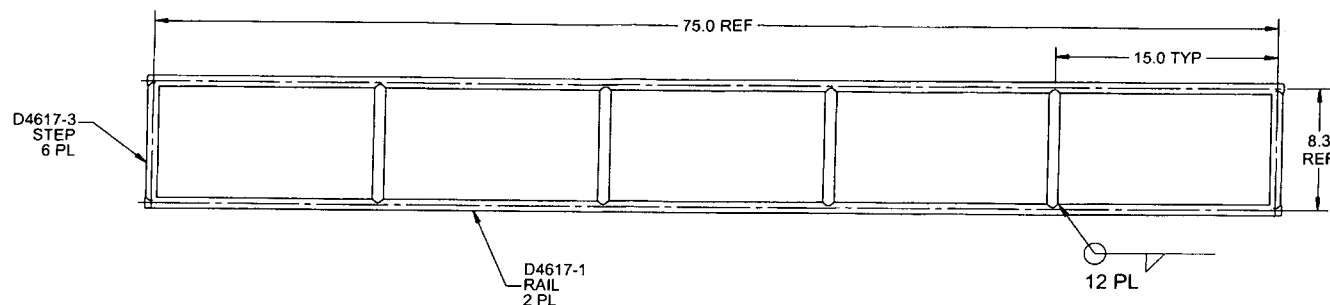
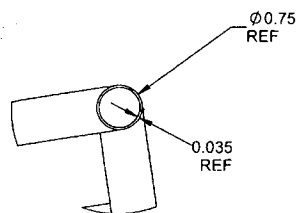
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



83127



**D4617-043 LADDER WELDMENT**

RELEASED  
2012-04-10

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER DART QSI044 6.6
- 7) WEIGHT: 4.5 lbs
- 8) WELDING: PER DART QSI 004

DESIGN	RP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	AS	DRAWING NO. <b>D4617</b>	REV. A
MFG. APPR.	ES		SHEET 2 OF 5
APPROVED	WMP	TITLE	SCALE
DE APPR.	WMP	<b>EMERGENCY ESCAPE LADDER</b>	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

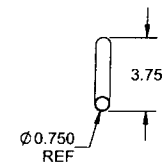
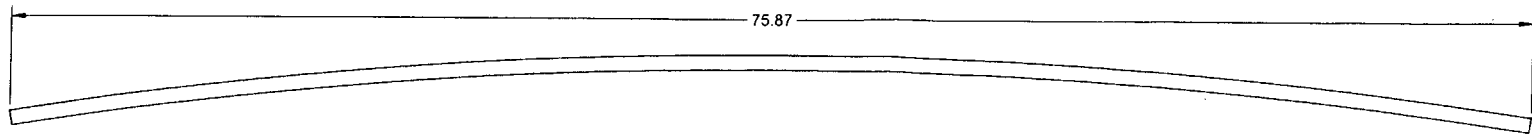
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

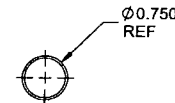
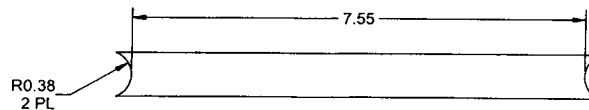
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

83127



**D4617-1 RAIL**



**D4617-3 STEP**

**NOTES:**

- 1) MATERIAL: AISI 4130N STEEL TUBING PER MIL-T6736  
OR AMS6371, 6360, 6361, 6362, 6373, 6374  
REF DART SPEC M4130NT0.750W.035
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER DART QSI044 6.6
- 7) WEIGHT: D4617-1 1.7lbs  
D4617-3 0.17lbs

**RELEASED**  
2012-04-18

DESIGN	RP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	A.P.	DRAWING NO. <b>D4617</b>	REV. A
MFG. APPR.	[Signature]	SHEET 3 OF 5	
APPROVED	[Signature]	TITLE	SCALE
DE APPR.	[Signature]	<b>EMERGENCY ESCAPE LADDER</b>	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

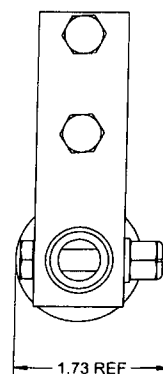
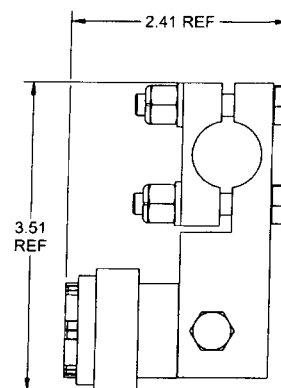
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

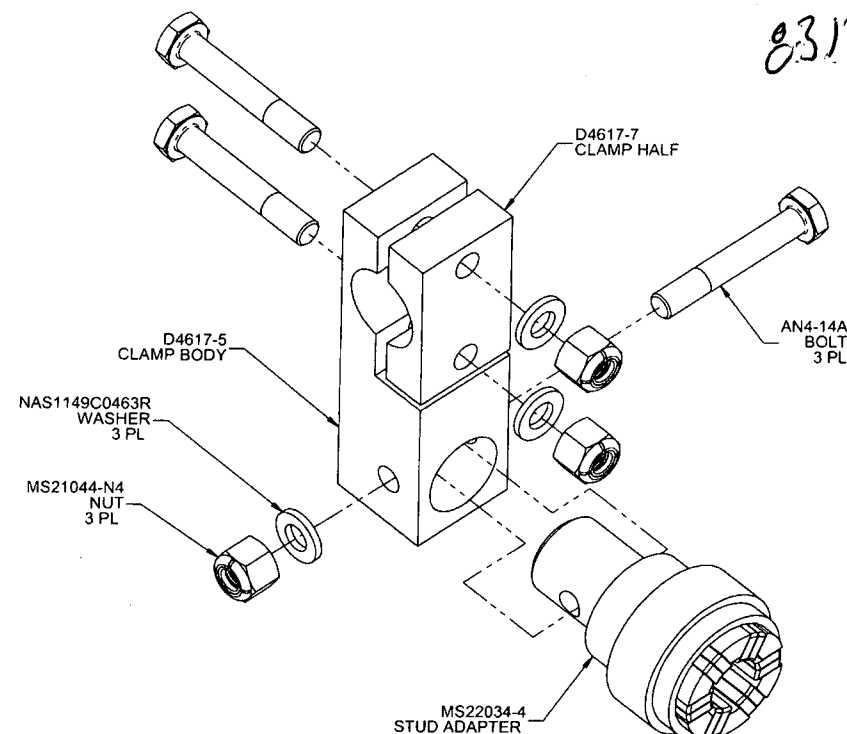
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

ITEM	QTY	P/N	DESCRIPTION
	X	D4617-045	CLAMP ASSEMBLY
1	1	D4617-5	CLAMP BODY
2	1	D4617-7	CLAMP HALF
3	3	AN4-14A	BOLT
4	3	MS21044-N4	NUT
5	1	MS22034-4	STUD ADAPTER
6	3	NAS1149C0463R	WASHER



**D4617-045 CLAMP ASSY**



**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER DART QSI044 6.6
- 7) WEIGHT: 0.5 lbs

DESIGN	RP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	D.S.	DRAWING NO. <b>D4617</b>	REV. A
MFG. APPR.	50	SHEET 4 OF 5	
APPROVED	10/11	TITLE	SCALE
DE APPR.		<b>EMERGENCY ESCAPE LADDER</b>	
DATE	12.04.02	NTS	

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W/O:		WORK ORDER CHANGES					
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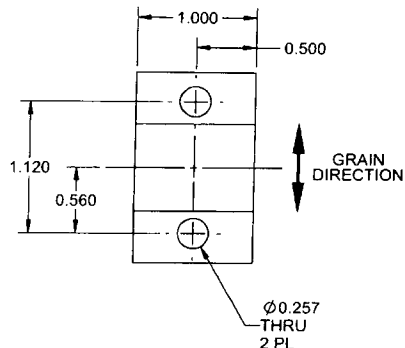
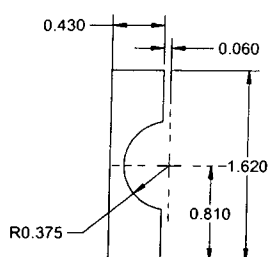
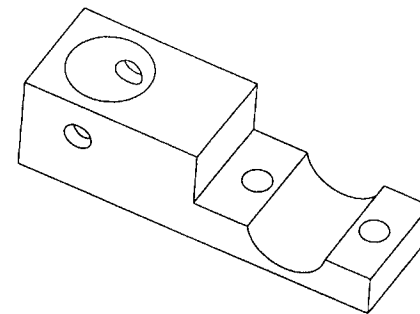
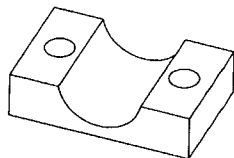
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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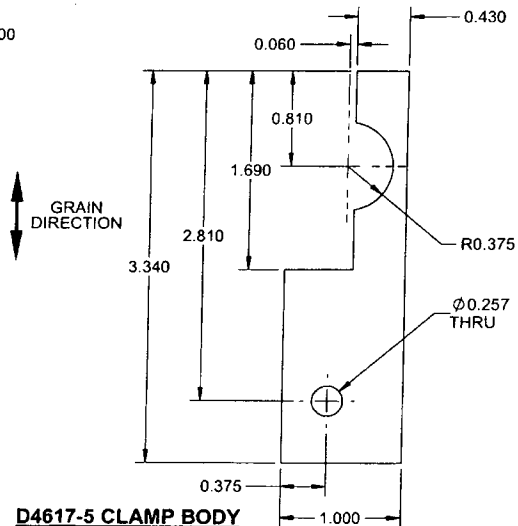
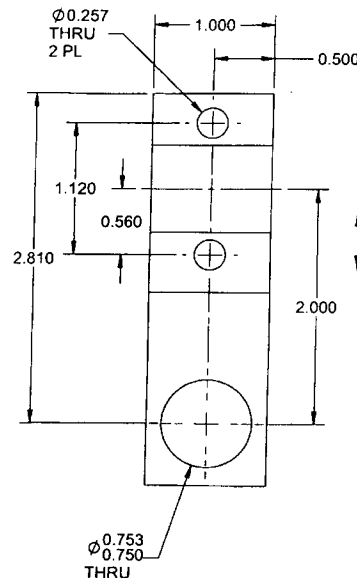
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**NOTE:** Date & initial all entries

03127



**D4617-7 CLAMP HALF**



**D4617-5 CLAMP BODY**

**NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR  
PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR  
AMS 4117/4128/4115/4116 OR QQ-A-200/8  
OR ASTM B211 OR ASTM B221  
REF DART SPEC M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER DART QSI 044 6.6 OR 6.7
- 7) WEIGHT: D4617-5 0.17 lbs  
D4617-7 0.05 lbs
- 8) POSSIBLE SUPPLIER: D4617-5: EAGLE P/N 212-110-06  
D4617-7: EAGLE P/N 212-110-07

RELEASED  
2012-04-10

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DRAWN	RP		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	E	<b>D4617</b>	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.		<b>EMERGENCY ESCAPE LADDER</b>	NTS
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**NOTE:** Date & initial all entries



# Receiving Report

Date: 12/4/3

Batch No: M/2/200

Supplier: Pacific Steel

Dart P/O: 16508

Packing Slip: Yes ☒ No ☐  
 Invoice: Yes ☐ No ☒  
 Receipt: Cash ☐ Cr ☒

Release Note Attached: Yes ☒ No ☐ N/A ☐  
 Waybill Attached: Yes ☒ No ☐  
 Shipment Complete: Yes ☒ No ☐ N/A ☐  
 QC6 Inspection 12/04/04 N/A ☐  
 Work Order ☐ N/A ☐

## Discrepancies

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments

Initials of receiver (if shipment OK) Level 12 [Signature]

Production/Admin: 12/4/3  
 Date  
 Received/Costing [Signature]  
 Initial

Location

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**Purchase Order Receipt Listing**

Monday, April 02, 2012 2:16:20 PM

All amounts are calculated in domestic currency.

All Vendors PO ID PO16558 Receipt Dates from 4/2/2012 to 4/2/2012 All Line Item Types  
 All Item ID/GL/WOs All Rec. Employees All Currencies  
 Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M/ Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
<b>VendorID\Vendor Name</b>		<b>VU-FAC001</b>	<b>Factory Steel</b>								
PO16558	1		M4130NT0.750W.03 f 5		4/2/2012	4/2/2012	96.0000	\$6.54	0.0000	0	\$627.84
USD	No		4130 RD TUBE .750 f X .035W 121250		96.0000	DESJ02		\$627.84	0.0000	0	
	2		M4130NT1.000W.04 f 9		4/2/2012	4/2/2012	24.0000	\$8.27	0.0000	0	\$198.48
	No		4130 RD Tube 1.00 f X .049"W 121250		24.0000	DESJ02		\$198.48	0.0000	0	
	3		71475-25	Each	4/2/2012	4/2/2012	1.0000	\$35.00	0.0000	0	\$35.00
	No		PACKING MATERIAL 121250		1.0000	DESJ02		\$35.00	0.0000	0	

Total Received Quantity: 121.0000

Total Qty to Inspect (PO U/M): 0.0000

Total Reject Quantity: 0.0000

Total Receipt Value: \$861.32

Total Balance Due Quantity: 0.0000

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# PACKING LIST

No. 31454 PG 1 OF 1



PL

FACTORY STEEL & METAL SUPPLY 14020 OAKLAND AVENUE DETROIT, MI 48203		PURCHASE ORDER # P016558		BUYER CHANTEL CLAVOIE		SHIP DATE 03/28/2012	
(313)883-6300 PHONE (313)883-4883 FAX		JOB NAME		Tel (613) 632-3336 Fax (613) 632-4443		SHIP VIA YRC	
SOLD TO DART AEROSPACE 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7		SALES ORDER # 26912		ORDER DATE 03/27/2012		SALES REP MICK HALON	
		SHIP TO DART AEROSPACE 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7		SHIP INST YRC		RESALE # 59-2958719	
				PRO# 761-530-2249		CARRIER YRC	
				TERMS NET 30 DAYS		BLIND Y/N N	
						FOB DETROIT	

LINE	PCS	QUANTITY	DESCRIPTION	WIDTH	LENGTH	WEIGHT	UNIT PRICE	TOTAL
			RETURN SIGNED FOR PROMPT PROCESSING FAX #313-883-4883					
1	4	96 FT	RD-N34035 4130N CD SMLSS RD TUBE 3/4" OD X .035W  Our Tag #      Heat #      Pcs      Total Ft 75718              540842              4              96		24' RL	25.660		
2	1	24 FT	RD-N:1049 4130N CD SMLSS RD TUBE 1" OD X .049W  Our Tag #      Heat #      Pcs      Total Ft 75719              542842              1              24		23"/24" RL	11.944		
3	1		PACK PACKING CHARGES  MTRS (CIRCLE)      FAX      SHIPMENT      INVOICE      ALL - DATE:              INITIAL:					

*6/14/3/2*

TOTAL WT 37 LBS		TOTAL	
RECEIVED BY - SIGNATURE		RECEIVED BY - PRINTED NAME	
		DATE RECEIVED	



SO

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# PLYMOUTH TUBE CO. USA

1209 East 12th Street, Streator, Illinois 61384  
Phone: (815) 673-1515 Fax: (815) 672-7343

## PRODUCT CERTIFICATION

SALES ORDER - LINE ITEM/RLS  
043167 - 1 / 0

WORK ORDER 013354  
HEAT NUMBER 540842  
MELT SOURCE Benteler Steel & Tube-Germany

SOLD TO

Factory Steel & Metal Supply C  
14020 Oakland Avenue  
Detroit, MI 48203  
USA

ISO 9001:2000  
AND  
TS 16949:2002  
CERTIFIED

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	SHIPMENT DATE										
8150														
<b>PART DESCRIPTION H07500350J400</b> OD: 0.7500" Max: 0.7550" Min: 0.7500" Wall: 0.0350" Max: 0.0380" Min: 0.0320" Length: 19.00' / 26.00' Spec: Mil-T 6736B Seamless Aircraft Grade: 4130 Finish: Cond N														
<b>CERTIFICATION REQUIREMENTS</b> This material meets the requirements of AMS 6371H and 6360K. This material was Eddy Current tested and conforms to the requirements of ASTM A-450. This material is stress relief annealed. The final annealing temperature was 1150 degrees fahrenheit. The Grain size is determined and reported by the raw material supplier in accordance to ASTM E-112. This raw material was magnetic particle inspected by the raw material supplier in accordance to AMS 2640J and/or ASTM E-1444, and rated as Frequency, and Severity to AMS 2301, latest revision. Yield is determined by using the 0.2% offset method.														
<b>Chemical Analysis</b>														
C	Mn	P	S	Si	Al	Cr	Mo	Ni	Pb	Cu	V	Ti	Sn	
.310	.55	.005	.003	.220	.036	.92	.17	.09	.001	.10	.002	.003	.009	
<b>Physical Properties</b>														
Freq.	Severity	Grain Size												
.098	.063	9												
<b>Mechanical Properties</b>														
<b>TEST</b>	<b>UNITS</b>	<b>#TESTS</b>	<b>HIGH</b>	<b>LOW</b>	<b>AVERAGE</b>	<b>STD-DEV</b>								
Tensile	Psi	6	112040	110270	111147	657								
Yield	Psi	6	108250	105140	105762	384								
Elongation	%	6	22	18	20	1								
Rockwell B	Rb	6	97	97	97	0								
Rockwell C	Rc	6	17	17	17	0								
<b>TEST</b>	<b>RESULT</b>													
Decarb/OD	Pass													
Total ID/OD decarb	Pass													
<b>Additional Specification(s)</b>														
AMS-T 6736A, 6360L & 6371J														

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

*Rakab*  
Quality Assurance

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





**PLYMOUTH TUBE CO. USA**

1209 East 12th Street, Streator, Illinois 61364  
Phone: (815) 673-1515 Fax: (815) 672-7343

## PRODUCT CERTIFICATION

SALES ORDER - LINE ITEM/RLS  
045607 - 1 / 0

WORK ORDER 013989  
HEAT NUMBER 542842  
MELT SOURCE Benteler Steel & Tube-Germany

SOLD TO

Factory Steel & Metal Supply C  
14020 Oakland Avenue  
Detroit, MI 48203  
USA

ISO 9001:2000  
AND  
TS 16949:2002  
CERTIFIED

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	SHIPMENT DATE										
8310														
<b>PART DESCRIPTION H10000490J900</b> OD: 1.0000" Max: 1.0050" Min: 1.0000" Wall: 0.0490" Max: 0.0540" Min: 0.0440" Length: 19.00' /26.00' Spec: Mil-T 6736B Seamless Aircraft Grade: 4130 Finish: Cond N														
<b>CERTIFICATION REQUIREMENTS</b>														
<b>Chemical Analysis</b>														
C	Mn	P	S	Si	Al	Cr	Mo	Ni	Pb	Cu	V	Ti	Sn	
.300	.55	.008	.008	.240	.033	.91	.17	.10	.001	.14	.002	.003	.011	
<b>Physical Properties</b>														
Freq.	Severity	Grain Size												
.107	.078	9												
<b>Mechanical Properties</b>														
<b>TEST</b>	<b>UNITS</b>	<b>#TESTS</b>	<b>HIGH</b>	<b>LOW</b>	<b>AVERAGE</b>	<b>STD-DEV</b>								
Tensile	Psi	3	112710	110700	111613	1017								
Yield	Psi	3	108520	107180	108050	754								
Elongation	%	3	22	20	21	1								
Rockwell B	Rb	3	100	100	100	0								
Rockwell C	Rc	3	20	20	20	0								
<b>TEST</b>	<b>RESULT</b>													
Decarb/OD	Pass													
Total ID/OD decarb	Pass													
<b>Additional Specification(s)</b>														
AMS-T 6736A, 6360L & 6371J														
<p>This test report data is for the heat Chemistry Stated above.</p> <p>The material in this test report is:</p> <p>1) Free from <b>Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers</b></p>														

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

*Rakobkhe*  
Quality Assurance

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**PLYMOUTH TUBE CO. USA**

1209 East 12th Street, Streator, Illinois 61384  
Phone: (815) 673-1515 Fax: (815) 672-7343

**PRODUCT CERTIFICATION**

SALES ORDER - LINE ITEM/RLS  
045607 - 1 / 0

SOLD TO

Factory Steel & Metal Supply C  
14020 Oakland Avenue  
Detroit, MI 48203  
USA

WORK ORDER 013989  
HEAT NUMBER 542842  
MELT SOURCE Benteler Steel & Tube-Germany

**ISO 9001:2000  
AND  
TS 16949:2002  
CERTIFIED**

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	SHIPMENT DATE
8310				
<p>(PBDE), and <u>Mercury</u> contamination.</p> <p>2) <u>NAFTA</u> compliant.</p> <p>End of Certification</p>				

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

*Rakobkhe*

Quality Assurance

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO16558

Purchase Order Date 3/26/12

PO Print Date 3/26/12

Page Number 1 of 1

Order From :

VU-FAC001

FACTORY STEEL  
14020 OAKLAND AVE.  
DETROIT,, MI 48203  
US

Contact Name

Vendor Phone 313 883 6300

Vendor Fax 313 883 4883

Vendor Account Nbr

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

USD

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**FAKED**  
02/20/30

*e-mail truck*

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	M4130NT0.750W.035 <i>032</i>	4130 RD TUBE .750 X .035W	4/02/12 Yes	96.00 f	Yellow Standard	\$6.5400	\$627.84
		Special Inst:	MATERIAL: AISI 4130N STEEL TUBING AS PER MIL-T-6736 OR AMS 6371/6360/6361/6362 6373/6374				
2	M4130NT1.000W.049 <i>032</i>	4130 RD Tube 1.00 X .049"W	4/02/12 Yes	24.00 f	Yellow Standard	\$8.2700	\$198.48
		Special Inst:	MATERIAL: AISI 4130N STEEL TUBING AS PER MIL-T-6736 OR AMS 6371/6360/6361/6362 6373/6374				
3		PACKING MATERIAL	4/02/12 Yes	1.00 Each	Yellow Standard	\$35.0000	\$35.00

MATERIAL CERTIFICATION  
REQ'D UPON DELIVERY

PO Total: \$861.32

PO Instructions:

PLEASE SHIP YELLOW TRANSPORT COLLECT

Change Nbr: 2

Change Date: 3/26/12

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries